Notice of Allowability	Application No.	Applicant(s)	
	09/680,065	COAD ET AL.	
	Examiner	Art Unit	
	Truc T. Chuong	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *07/29/05*.

2. ☒ The allowed claim(s) is/are *1-5,13,14,16-25 and 28-40*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☒ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in the telephone interview with Attorney Mr. Howard A. MacCord, Jr. on September 14, 2005. In this communication, independent claims 1, 13, 17, 22, 29, 33, and 40 have been amended to re-format the claims that there will not be extra spaces between paragraphs.

2. The dependent claims are unchanged as the amendment filed on July 29, 2005, and the independent claims have been amended as follows:

1. A method in a data processing system for displaying versions of a source code, each version reflecting an instance in an edit history, the method comprising the steps of:

determining the language of the source code;

storing indications of the edits to the source code;

converting the source code with the indications of the edits from the language into

a language-neutral representation that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member; and

using language-neutral representation to simultaneously display a text

representation and a corresponding graphical representation of the converted source code with the indications of the edits, showing visual differences of the source code through time,

wherein the graphical representation of the converted source code displays

a diagrammatic representation of the source code to demonstrate relationships between elements of the source code, and

wherein the graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface, and

calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

13. A method in a data processing system for displaying versions of a source code, the method comprising the steps of:

storing an edit to the source code; and

displaying simultaneously a text representation and a

corresponding language-neutral graphical representation of the source code that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member with an indication of the edit,

wherein the language-neutral graphical representation of the source code displays a diagrammatic representation of the source code demonstrating

relationships between elements of the source code, and

wherein the language-neutral graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface, and

calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

17. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having versions of a source code, each version reflecting an instance in an edit history, the method comprising the steps of:

determining a language of the source code;

storing indications of the edits to the source code;

converting the source code with the indications of the edits from the language into

a language-neutral representation that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member; and

using the language-neutral representation to simultaneously display a text

representation and a corresponding graphical representation of the source code with indications of all the edits;

wherein the graphical representation of the source code displays

a diagrammatic representation of the source code demonstrating

relationships between elements of the source code, and

wherein the graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface, and

calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

22. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having versions of a source code, each version reflecting an instance in an edit history, the method comprising the steps of:

storing indications of the edits to the source code; and

displaying simultaneously a text representation and a language-neutral graphical representation of

the source code that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member with indications of all the edits, wherein the language-neutral graphical representation of the source code of the source code displays

a diagrammatic representation of the source code to demonstrate relationships between elements of the source code, and

wherein the language-neutral graphical representation of the source code is not an

alpha-numeric display and is not merely a text representation on a user interface, and

calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

29. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having a source code, the method comprising the steps of:

storing an edit to the source code;

displaying simultaneously a text representation and a language-neutral graphical representation of the source code that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member with indications of all the edits,

wherein the language-neutral graphical representation of the source code displays a diagrammatic representation of the source code to demonstrate relationships between elements of the source code, and

wherein the language-neutral graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface, and

calculating metrics selected from a group consisting of cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism

metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

33. A data processing system comprising:

a secondary storage including a source code;

a memory device including:

a program that stores indications of edits to the source code into the memory device, and that simultaneously displays a text representation and a corresponding language-neutral graphical representation of the source code that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member with indications of all edits,

wherein the language-neutral graphical representation of the source code displays a diagrammatic representation of the source code to demonstrate relationships between elements of the source code, and

wherein the language-neutral graphical representation of the source code is not an alpha-numeric display and is not merely a text representation on a user interface of the source code with the indications of the edits;

a quality assurance module which monitors the modifications to the source code and calculates metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics; and

a processor for running the program.

40. A system for displaying versions of a source code, each version reflecting an instance in an edit history, the system comprising:

means for storing indications of the edits to the source code; and

means for simultaneously displaying a text representation and a language-neutral graphical representation of the source code that includes a data structure having a source code interface (SCI) model, an SCI package, an SCI class, and an SCI member with the indications of all the edits,

wherein the graphical representation of the source code displays

a diagrammatic representation of the source code to demonstrate

relationships between elements of the source code, and

wherein the graphical representation of the source code is not an alpha-

numeric display and is not merely a text

representation on a user interface, and

a means for calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum metrics, polymorphism metrics, and maximum metrics.

Allowable Subject Matter

3. Claims 1-5, 13-14, 16-25, and 28-40 are allowed.

4. The following is an examiner's statement of reasons for allowance in combination with other claim limitations:

Independent claims 1, 13, 17, 22, 29, 33, and 40, when considered as a whole, are allowable over the Prior Art of record. Specifically, the Prior Art of record fails to teach that the data processing system for displaying versions of a source code, wherein each version reflecting the instance in the edit history of the source code by determining the language of the source code, storing indications of the edits to the source code, converting the source code with the indications of the edits from the language into the language-neutral representation that includes the data structure having the source code interface (SCI) model, the SCI package, the SCI class, the SCI member, and using language-neutral representation to simultaneously display the text representation and the corresponding graphical representation of the converted source code with the indications of the edits, showing visual differences of the source code through time, wherein the graphical representation of the converted source code displays the diagrammatic representation of the source code to demonstrate relationships between elements of the source code, and wherein the graphical representation of the source code is not the alpha-numeric display and is not merely a text representation on a user interface, and calculating metrics selected from a group consisting of basic metrics, cohesion metrics, complexity metrics, coupling metrics, Halstead metrics, inheritance metrics, maximum

metrics, polymorphism metrics, and maximum metrics by way of a quality assurance module, which monitors the modifications to the source code.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Truc T. Chuong whose telephone number is 571-272-4134. The examiner can normally be reached on M-Th and alternate Fridays 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Truc T. Chuong

09/15/05

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